

Sumikaflex RP-100S

Type:	Ethylene-Vinyl acetate Copolymer Powder	
Properties:	Sumikaflex RP-100S is easy emulsified in water. It gives excellent performance of adhesiveness, durability and alkali liquid resistance as well as an Ethylene Vinyl acetate Copolymer emulsion. Due to powder, it can be pre-mixed with hydraulic powder like cement and plaster. It can also produce for one package type material that has good construction and can be easily treated at a field-work management.	
Main application:	<p>Construction (foundation adjuster, joint materials, finishing dressed lumber)</p> <p>Civil engineering materials (vegetation)</p> <p>Agrichemical spreading agent</p> <p>Polymer-improved agent, high-concentrated agent for polymer emulsion</p>	
Physical properties:		
Appearance		White powder
Volatile content (%)		< 2
Powder particle size (μm)		70
Bulk density (g/cm ³)		0.4
50% water dispersion		
Viscosity (mPa·s)		2000
pH		5 – 6
MFT (°C)		0

< Technical Information of Sumikaflex RP-100S >

1. Physical properties

	Typical value
1) Powder properties	
Appearance	White powder
Volatile content (%)	< 2
Powder particle size (μm)	70
Bulk density (g/cm ³)	0.4
2) 50% water aqueous	
Viscosity (mPa·s)	2000
pH	5 - 6
MFT (°C)	0

2. Film properties

(1) Tensile strength

		RP-100S
Original	Elongation (%)	330
	Strength (MPa)	5.9
Wet	Elongation (%)	480
	Strength (MPa)	2.0

Test method

Thickness of film: 0.15 mm

Shape of film: Dumbbell No.3

Film forming condition and aging: 23°C ×65%RH ×7 days

Measurement speed: 500 mm/min

Wet: Film in water at room temperature for 24 hours

(2) Water or alkali liquid of resistance of film

		RP-100S
Water resistance	Elusion (%)	12
	Absorption (%)	34
Alkali resistance	Elusion (%)	12
	Absorption (%)	45

Test method

Thickness of film: 0.15 mm

Water resistance: Film in water for 4 days at 23°C

Alkali liquid of resistance: Film in 1N NaOH for 4 days at 23°C

3. Test method

SumikaflexRP-100S is easy dispersed in water at room temperature, and becomes emulsion. In general method, it is stirred slowly with a little water first. Next, stirred strongly and added water gradually and finally can be controlled prescribed concentration by containing water gradually.

In case of adding cement, plaster or pigment, to be sure to mix the powder well first then add the water.

4. Application

(1) Construction material

a) Substrate control agent

Cement filler ; Gypsum putty
Cement thin coating ; Gypsum self-leveling material
Cement self-leveling

b) Joint materials

Mortar for jointing tile; Joint mortar for heat insulation board
Joint material for tiling; Powder adhesive for wallpaper
Binder for textile wall; etc

c) Finishing

Cement stucco; Gypsum finishing material
Thick trowel paint for cement; Powder paint
Thick roller paint for cement; etc

(2) Civil engineering materials

Past blending coating for vegetation coating; road pavement (half deflection for pavement) etc

(3) Agrichemical spreading agent

(4) Polymer-improved agent and high-concentrated agent for polymer emulsion

5. Application

(1) JIS mortar properties

		RP-100S	Plain	JIS standard
Before hardening	W/C (%)	67	80	-
	Flow value	181	141	-
	Air content (%)	20.8	3.5	-
After hardening	Bending strength (MPa)	6.5	5.5	> 4
	Compress strength (MPa)	31.7	38.5	> 10
	Adhesion strength (MPa)	1.5	1.1	>1
	Rate of water adsorption (48 h) (%)	11.4	14.6	< 15
	Amount of water permeation (g)	7.8	26.0	< 30
	Rate of length change (4 weeks) (%)	0.124	0.099	0 – 0.150

Formulation: Cement/Sand=100/300 P/C = 10%

Machine mixing: 1 min/1 min

Others: conformed with JIS A6203

Air content: Densities are following values.

Cement: 3.15 Standard sand: 2.64

Polymer: 1.00

Adhesion strength: Broken conditions are all spread broken mortars.

(2) Adhesive properties

			RP-100S
P/C = 5%	Dispersion test	W/C (%)	55
		Flow value	173
	Adhesion strength (MPa)	Original *1	0.8 B
		Wet *2	0.1 A/B:8/2
		Cycle test(heat-cold) (5 times)*3	1.9 A/B : 1/9
	P/C = 10%	Dispersion test	W/C (%)
Flow value			181
Adhesion strength (MPa)		Original *1	1.6 A/B : 2/8
		Wet *2	1.7 B
		Cycle test (heat-cold) (5 times)*3	2.5 A/B : 9/1

*1 Measured after aging

*2 After measured original strength and dipped for 2 weeks

*3 After measured wet strength and 5 cycles treatment

(One cycle is that dipping water for 1 hours and $-20^{\circ}\text{C} \times 3$ hours and $50^{\circ}\text{C} \times 3$ hours.)

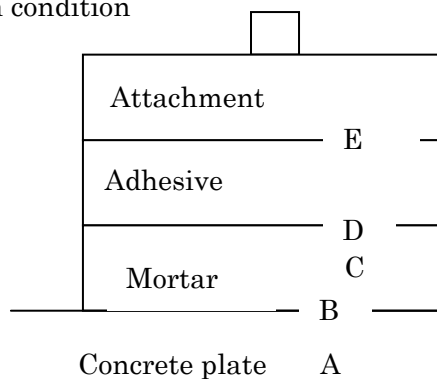
Formulation: powder cement/sand No. 5/sand No. 7 = 100/100/100 (C/S = 1/2)

Substrate plate: Concrete plate 30 cm \times 30 cm \times 6 cm without wetting

Coating thickness: 10 mm

Aging: At room temperature for 2 weeks

Broken condition



E: attachment/adhesive surface

D: adhesive/mortar surface

C: mortar broken

B: concrete/mortar surface

A: concrete plate broken